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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/597,927	07/03/2007	Roelof Thiewes	H27197-1271.1101101	7937

90545 7590 03/19/2010

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EXAMINER	
PRICE, CARL D	
ART UNIT	PAPER NUMBER
3749	

NOTIFICATION DATE	DELIVERY MODE
03/19/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/597,927	THIEWES ET AL.	
	Examiner	Art Unit	
	Carl D. Price	3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02/23/2010*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *14-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *14-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on **02/23/2010** has been entered.

Response to Arguments

Applicant's arguments with respect to amended and previously presented claims **14-36** have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended the claims to be of a scope not previously considered. Consistent with applicant's argument that the prior art relied on in the previous office action fail to show, disclose and/or teach certain aspects of applicant's invention now recited in the claims filed on **02/23/2010,** applicant has amended the claims to include at least the following:

14. (Currently Amended)

A mixing device for mixing gas and combustion air for a gas burner comprising:
a housing, **the housing having a first fastener member configured to receive a gas regulating device, and a second fastener member configured to interface with a supporting plate of a blower**; and
a venturi nozzle, wherein the venturi nozzle, **the first and the second fastener members are [[is]]** integrated in the housing in such a way that the housing**, the first and second fastener members** and the venturi nozzle are formed as a monolithic unit.

26. (Currently Amended)

A gas burner, comprising:
a combustion chamber;
a mixing device **configured** to mix gas and combustion air, the mixing device including a housing **with** a venturi nozzle, wherein the venturi nozzle is integrated in the housing in such a way that the housing and the venturi nozzle are formed as a monolithic unit;
a blower **having a supporting plate**;

wherein the housing includes a fastener member configured to receive the supporting plate of the blower; and

the blower, when activated, **acts** on the mixing device to suck in a mixture of gas and combustion air provided by the mixing device and feeding the mixture to the combustion chamber **of the gas burner**.

32. (Currently Amended)

The gas burner of claim 29 wherein the monolithic unit includes a quick-acting closure **formed therein, the quick-acting closure configured to fasten the gas regulating device to the monolithic unit**.

34. (Currently Amended)

A mixing device for mixing gas and combustion air for a gas burner, said mixing device comprising:

a housing, the housing having side walls that define a venturi nozzle that forms a flow duct, the flow duct having an inlet opening for accepting combustion air and an outlet opening for providing a mixture of gas and combustion air;

a gas inlet opening extending through a side wall of the housing, the gas inlet opening defining a recess for receiving a gas outlet stub of a gas regulating device; **and wherein the housing includes a fastener member configured to receive the gas outlet stub of the gas regulating device for fastening the housing to the gas outlet stub, wherein the housing, venturi nozzle, gas inlet opening, and fastener member are formed as a monolithic element**.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.,* 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to applicant's argument(s) directed to the prior art previously relied on, and in response to the scope of the invention now set forth in the presently amended claims, the following examiner's action now relies on the prior art reference of **US 3072390 (Philips)**. Most notably, with regard to the now claimed invention, **US 3072390 (Philips)** shows and discloses a mixing device for mixing fuel and combustion air for combustion wherein a venturi mixer housing includes a fuel inlet opening (78) defining a recess (40, 50, 79, 81) for receiving a gas outlet stub (64) of a gas regulating device; a threaded fastener member (at 64) configured to

receive a fuel outlet stub (64) of a gas regulating device (66) for fastening the housing to the gas outlet stub, wherein the housing (10), venturi nozzle (12), a inlet opening (40, 79), and threaded fastener member are formed as a monolithic element.

Accordingly, while applicant's arguments have been carefully considered, applicant's claims do not patentably distinguish applicant's invention over the prior art of record.

See the examiner's action herein below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims Rejected under 35 U.S.C. 103(a)

Claims 14, 16, 19-31 and **32-36** are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 197 33 768** in view of **US 3072390 (Philips)** and **GB 1397536**.

DE 197 33 768 shows and discloses shows a mixing device for mixing gas (12) and combustion air (6) for a gas burner (1), it being possible for a mixture of gas and combustion air that is provided by the mixing device to be fed to the gas burner by means of a blower (2), said mixing device comprising:

a housing (10); and

a venturi nozzle (11), wherein the venturi nozzle is integrated in the housing in such a way that the housing and the venturi nozzle are formed as a monolithic unit; and

wherein the monolithic unit forms a flow duct for gas and combustion air, it being possible for combustion air to be sucked in at an inlet opening of the monolithic unit, the blower acting at an outlet opening of the monolithic unit, and the blower providing a suction pressure to suck in the mixture of gas and combustion air through the outlet opening.

DE 197 33 768 shows and discloses the invention substantially as set forth in the claims with possible exception to:

- a gas regulating device fastened relative to a mixer unit, the gas regulating device including a gas outlet stub that is insertable into a corresponding recess in the monolithic unit; and
- the quick-acting closure is formed as a bayonet closure.

US 3072390 (Philips) shows and discloses a mixing device for mixing fuel and combustion air for combustion wherein a venturi mixer housing includes a fuel inlet opening (78) defining a recess (40, 50, 79, 81) for receiving a gas outlet stub (64) of a gas regulating device; a threaded fastener member (at 64) configured to receive a fuel outlet stub (64) of a gas regulating device (66) for fastening the housing to the gas outlet stub, wherein the housing (10), venturi nozzle (12), a inlet opening (40, 79), and threaded fastener member are formed as a monolithic element.

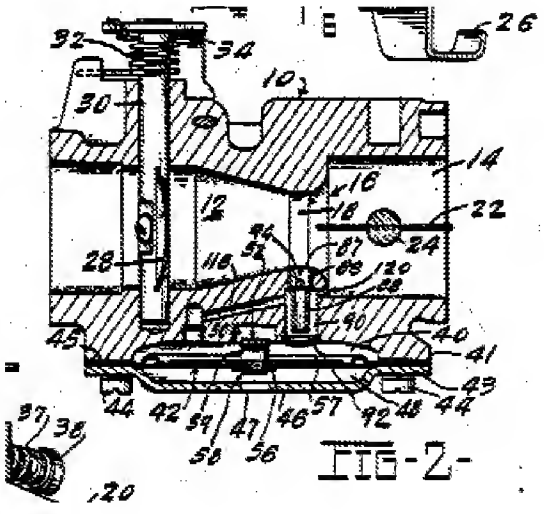
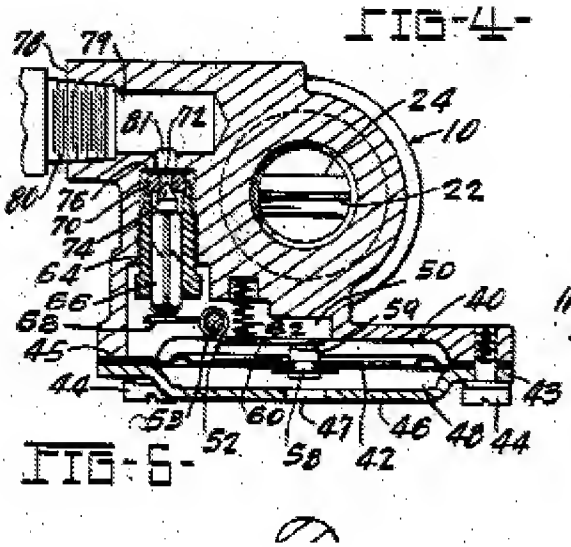
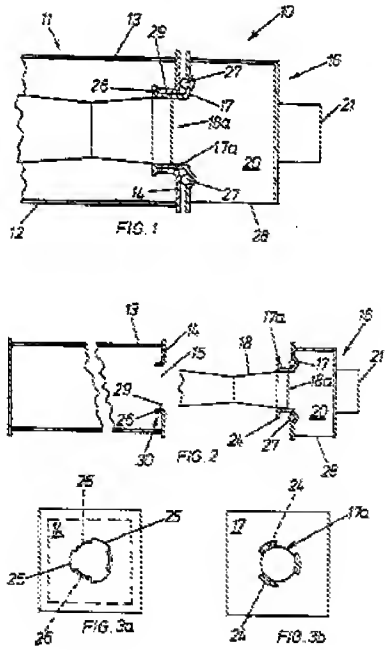


FIG-2-



GB 1397536 teaches, from applicant's same gas mixer burner field of endeavor, that it is known to use bayonet type flow joint fasteners as quick connect joint means (17, 24, 25) in gas mixer burners for securing a venturi mixer housing to further burner components (13). **GB 1397536** further uses a seal (27).



In regard to **claims 14, 16, 20-30** and **32-36**, for the purpose of providing a suitable gas supply and control means for the fuel gas flow, it would have been obvious to a person having ordinary skill in the art to modify the fuel supply of **DE 197 33 768** to include a flow regulating device including sealing means in the manner set forth in the claims, in view of the teaching of **US 3072390 (Philips).** In regard to claims 22, 30 and 32, the threaded fasteners (e.g. – 5, and adjacent numeral 7; figure 2) securing the regulator to the housing are deemed the structural and functional equivalent to applicant's only broadly claimed "quick-acting" closure fastener.

In regard to claims **19 and 31**, for the purpose of providing a suitable alternative readily and selectively operable fluid joint between the venturi hosing and blower housing which requires no tools for operation, it would have been obvious to a person having ordinary skill in the art to provide **DE 197 33 768** with a bayonet and seal type flow joint, in view of the teaching of **GB 1397536**.

In regard to **claims 23** and **33**, Official Notice is taken that it is known to use quick acting securing clip type conduit flow connectors in the gas burner filed of endeavor for the purpose of easily and readily securing burner feed means. Therefore, in view of that which is well known and for the known purposes, it would have been obvious to a person having ordinary skill in the art to modify **DE 197 33 768** to optionally include a snap clip type fastener to secure the venturi and fuel feed flow connections (see for example: **US 3538940, US 4116476, US 6332773 Kuhn, US 2771308**).

In regard to **claims 35** and **36,** for the purpose of providing an alternative arrangement for introducing the fuel gas into the venturi nozzle, it would have been obvious to a person having ordinary skill in the art to modify **DE 197 33 768** such that the gas-routing duct (12) is configured to introduce fuel gas through an opening that opens out radially into the venturi flow duct, in view of the teaching of **US 3072390 (Philips).**

US 3072390 (Philips) shows:

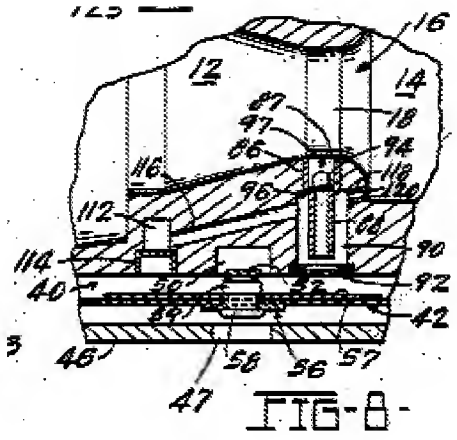


FIG-8-

Claims Rejected under 35 U.S.C. 103(a)

Claims 15, 17 and **18** and are rejected under 35 U.S.C. 103(a) as being unpatentable over **DE 197 33 768** in view of **US 3072390 (Philips)** and **GB 1397536,** as applied to claim 14 above, and further in view of **US 2001/0055709 (Sang).**

DE 197 33 768 shows and discloses the invention substantially as set forth in the claims with possible exception to:

- the monolithic venturi unit is formed from plastic.

US 2001/0055709 (Sang) teaches, from applicant's same venturi nozzle field of endeavor, that the production of convergent-divergent nozzles, such as so-called laval or venturi nozzles, usually takes place by machining a blank. Irrespective of the material used, ***such as metal, ceramic or plastic,*** the machining of the convergent-divergent flow cross section is very laborious. Nozzles made of metal are usually produced by a metal-removing operation by turning or eroding. Nozzles made of ceramic may be produced by powder injection molding or sintering, nozzles made of plastic may be produced by injection molding. Particularly for ceramic and plastic nozzles, a complex mold is necessary for this operation, in order to produce the undercut through the convergent-divergent bore.

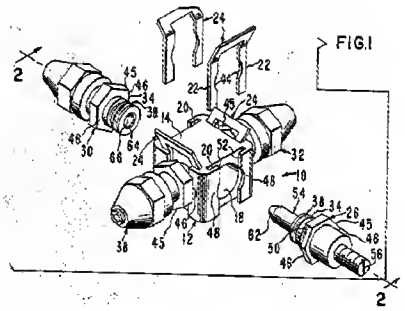
In regard to **claims 15** and **17**, for the purpose of providing a suitable material for forming the venturi, it would have been obvious to a person having ordinary skill in the art to

make the **DE 197 33 768** of plastic material, in view of the teaching of **US 2001/0055709 (Sang).** Further, in regard to claims 17 and 18, Official Notice is taken that blower housing are known to be made from metal and to include inlet supporting plates with fasteners, such as threaded bolts, to secure inlet elements thereto (See for example: **US 4830600 (VerShaw et al)**. Therefore, in regard to claims 17 and 18, in view of that which is well known and for the known purpose, it would have been obvious to a person having ordinary skill in the art to provide the blower of **DE 197 33 768** with a metal inlet support plate and "quick" closure fasteners, in the form of threaded bolts.

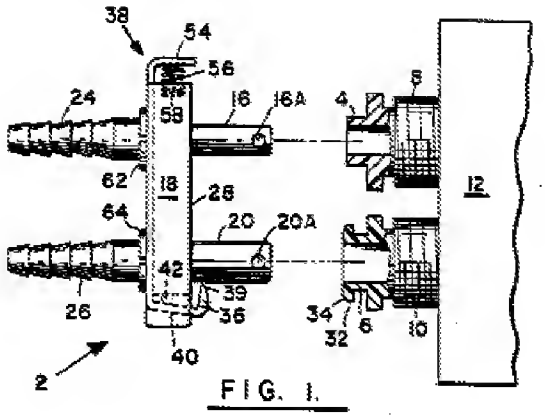
Conclusion

See the attached USPTO 892, as well as previously presented USPTO 892 forms, for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

US 3538940 shows:



US 4116476 shows:



US 6332773 Kuhn shows:

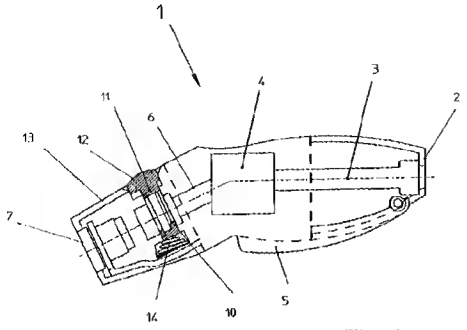


Fig. 1

US 2771308 shows:

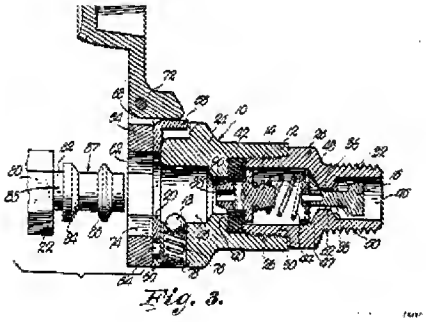
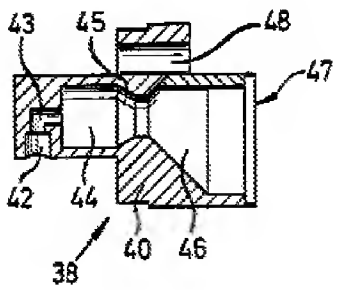


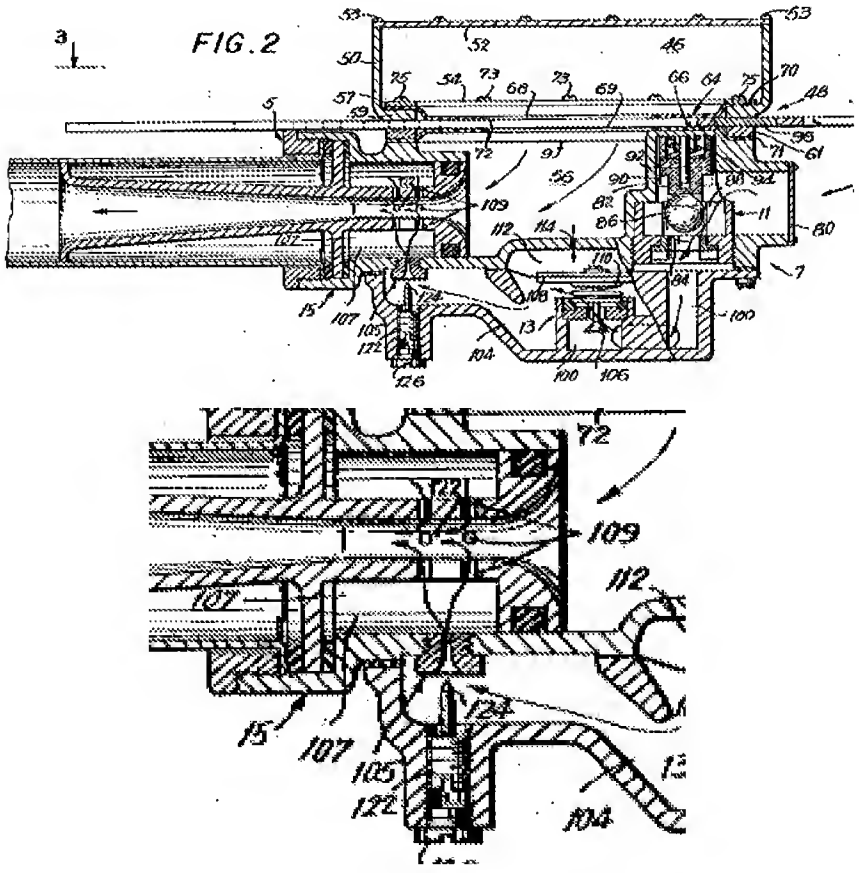
Fig. 3.

DE 36 04 314 (Gruber) shows (Figure 5) and discloses a monolithic material body or housing (40, 48) having a Venturi shaped nozzle (44, 46) or passage formed therein.

FIG. 5



US 3468298 (Teague, Jr. et al) teaches, from applicant's same air and fuel gas mixer field of endeavor, a gas regulating device (5) fastened relative to a mixer unit (107, 109) , the gas regulating device including a gas outlet stub (105) that is insertable into a corresponding recess in the monolithic unit. **US 3468298 (Teague, Jr. et al)** shows the fastening of the gas regulating device relative to the monolithic unit includes a sealing element (gaskets and ring seals are shown in figure 2; not referenced). **US 3468298 (Teague, Jr. et al)** further teaches a gas-routing duct (109) is configured to introduce fuel gas through an opening that opens out radially into the venturi flow duct.



US 5901695 (Deptolla) teaches, from applicant's same gas mixer burner field of endeavor, that it is known to use bayonet type flow joint fasteners as quick connect joint means (figure 8) in gas mixer burners for securing a venturi mixer housing to further burner inlet

components (1). In another embodiment (FIG. 8), the burner head 1 can also be fixed by means of an easily detachable connection, e.g. a bayonette closure, on the mixing pipe.

FIG. 1

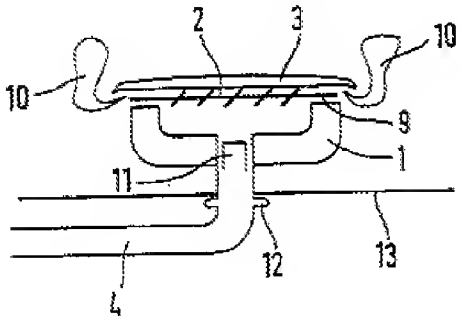
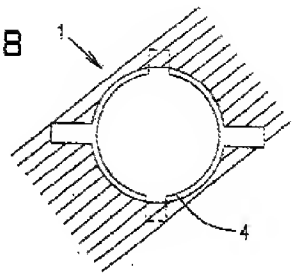


FIG. 8



GB 2036295 shows a gas burner comprises a body 1 formed by two sheet metal shells 2, 3, joined together by flanges along their margins and shaped to constitute a body of Venturi tube form with an expansion chamber 5 and a chimney tube 6. A bracket 8 is secured to the base 10 of a cooking apparatus and is provided with a flange 9 to locate the burner body. A burner head 7 extends through a central aperture 12 of the bracket 8, the latter being provided with resilient tongues to engage in oblique slots 18 of the head 7 so that the latter is releasably fastened by means of the **bayonet joint type.** Screws 15 engage in nuts 14 secured to the bracket 8 in order to hold a dished ring 16 which engages the upper wall 11 of the cooking apparatus housing. An igniter 13 is secured in a hole in the bracket 8.

3/3 2036295

Fig. 5

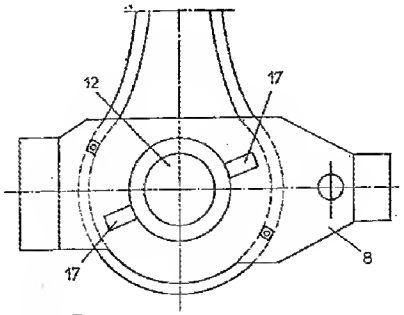
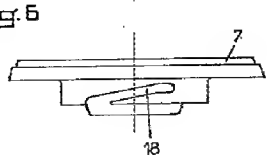
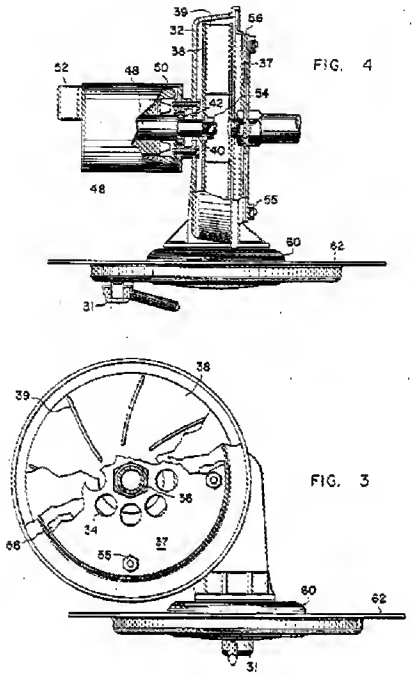


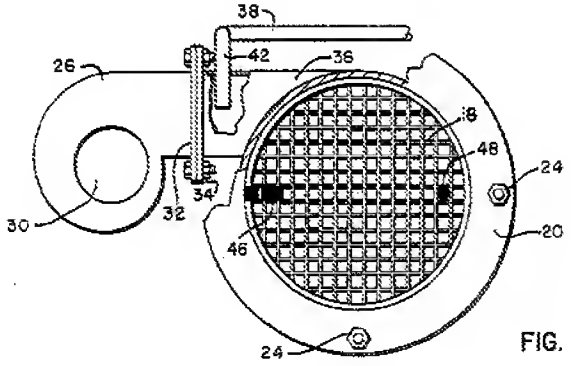
Fig. 6



US 4830600 (VerShaw et al) shows an mounting plate for a fuel supply means (36) with threaded fasteners (55) on a blower.



US 4224019 (Dilmore) shows an mounting plate with threaded fasteners on a blower.



USPTO CUSTOMER CONTACT INFORMATION

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carl D. Price whose telephone number is (571) 272-4880. The examiner can normally be reached on Monday through Friday between 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven B. McAllister can be reached on (571) 272-6785. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Carl D. Price/
Primary Examiner, Art Unit 3749

cp